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TRANSACTIONS

OF THE

ILLINOIS STATE ACADEMY OF SCIENCE

VOLUME 32 MARCH, 1940 NUMBER 3

ANNOUNCEMENT

Thirty-third Annual Meeting

Friday and Saturday, May 3 and 4, 1940

GALESBURG, ILLINOIS

Published by the Academy
Affiliated With the State Museum Division
Department of Registration and Education
Centennial Building, Springfield, Illinois.

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ANNOUNCEMENTS

All authors who desire to submit papers for publication in the 1940 Transactions of the Academy must leave them with their Section Chairman on or before May 3rd.

The Committee on *Research Grants from the American Association for the Advancement of Science* announces that each year $200 is granted the Academy for use in the aid of research projects. Requests for small grants from this fund will be received up to February 1, 1941, and should be accompanied by a detailed statement of preceding background, general purpose, and estimated expenses. All such requests should be supported by three letters of recommendation sent directly by the writers. Customarily grants are made only to scientists connected with smaller institutions within the State. Correspondence should be directed to C. H. Behre, Jr., Department of Geology and Geography, Northwestern University, Evanston, Illinois.

The Academy has received an invitation from the Government of the United States to send delegates to the *Eighth American Scientific Congress* convening in Washington, D. C. May 10-18, 1940. This Congress is meeting for two cardinal purposes: To advance scientific thought and achievement; To assist in celebrating the 50th anniversary of the Pan American Union. Present also are the basic purposes of all inter-American meetings; namely, the examination of problems peculiar to this hemisphere, and the promotion of better understanding among the American Republics. Sectional Meetings are held similar to those of the Academy, with History, Statistics, Jurisprudence and Economics Sections in addition. *Any member contemplating attendance at this Congress, please communicate with R. F. Paton, University of Illinois, Urbana, Illinois as soon as possible.*

The Illinois chapters of the *American Society of Physics Teachers* are sponsoring a symposium on Physics as Related to Engineering Education, in conjunction with the Academy meetings. Anyone interested may secure particulars by communicating with Prof. V. F. Swaim, Bradley Polytechnic Institute, Peoria.

The Senior Academy urges members of the Junior Academy to plan on joining the Saturday morning field trips.

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General Chairman, Galesburg Meeting: H. E. Way, Knox College, Galesburg

GENERAL PROGRAM

All Addresses and Section Meetings Are Open to the Public.

THURSDAY, MAY 2, 1940

6:00 p. m. Council dinner at the Galesburg Club, Galesburg.

7:30 p. m. Meeting of the Council, Galesburg Club, Galesburg.

FRIDAY, MAY 3, 1940

Knox College, Galesburg, Illinois

8:00 a. m. *Registration* by all members and guests. Securing of final program, and tickets for the annual banquet. Registration for Saturday Field Trips. Old Main, Knox College.

8:00 a. m. *Meeting of the Council* with local committee and delegates from affiliated societies. Room 103 Science Hall.

GENERAL SESSION, Knox College Theatre—Alumni Hall.

8:45 a. m. *Preliminary business meeting.* Appointment of committees on nominations, resolutions, and auditing. Adjournment until 11:45 a. m. All members should attend.

9:00 a. m. *Welcome*: Carter Davidson, President of Knox College.
Presidential Address: *Michael S. Bebb, Illinois Botanist and Letter-Writer* (Illustrated)—Professor Evelyn I. Fernald, Rockford College, Rockford.
Science and the Common Life—Professor Anton J. Carlson, University of Chicago, Chicago.
Looking Through Great Telescopes—(Illustrated with movies)—Professor Oliver J. Lee, Director, Dearborn Observatory, Northwestern University, Evanston.

11:45 a. m. *Annual business meeting of the Academy*: reports of officers and committees and other business.
Adjournment at 12:00 until 5:00 p. m.

12:00 Noon. *Luncheon.* Seymour Hall Dining Room. Tables for special groups may be reserved by communicating with H. E. Way, Galesburg. Arrangements have already been made for all interested in Physics and Engineering Science to lunch together.

1:00-4:30 p. m. *Exhibits*: Junior Section High School Science Club exhibits on display, Gymnasium, Galesburg High School.

1:30 p. m. *Section Meetings.* Election of Chairmen for 1940-41. Papers, demonstrations and discussions. Knox College class rooms. *All papers to be considered for publication must be turned in at the close of these Section meetings.*

5:00 p.m. *Final business meeting.* Election of officers for 1940-41. Announcement of grantees for A. A. A. S. Research Awards.

6:15 p. m. *Annual Banquet.* Informal, Seymour Hall Dining Room, price $1.00. Reservations made in advance by personal application or by mail to Mr. C. L. Furrow, Knox College, Galesburg, Illinois. Tickets should be called for before 10:30 a. m., Friday, May 3, Alumni Room, Old Main, Knox College.

Speakers at the Banquet:

Ralph Hawthorne, Pres., Chamber of Commerce, Galesburg;
C. J. Adamec, Dean, Knox College;
J. Carl Hart, Vice-President, Chamber of Commerce, Galesburg.

8:00 p. m. *Annual Public Lecture.* Galesburg High School Auditorium. *The Artificial Creation of Speech.* (Slides and Film.) Dr. J. O. Perrine, Vice-President, American Telephone and Telegraph Company.

SATURDAY, MAY 4, 1940

9:00 A. M. FIELD TRIPS

The local committee will arrange transportation if reservations are made on Friday at the registration desk, Alumni Room, Old Main. Those planning to go on any but the Railroad Trip should leave orders at the same desk Friday for box lunches to be picked up at 8:30 Saturday morning, and should wear hiking clothes on the trips. All trips except the Anthropological begin at Science Hall promptly at 9:00.

Special Trip. The Burlington Railroad has arranged a special trip through the electrified railroad yards. A special train for Academy members will be made up at the C. B. & Q. Station, Seminary and Tompkins Streets, and special guides have been detailed to explain the working of the Humps, the electric braking system, the tie-treating plant and many other points of interest.

Anthropology Trip. Meet in front of Old Main. Cars will proceed to Black Hawk State Park near Rock Island where the fine museum of Indian material is of particular interest. Box lunches will be eaten in this Park, after which a visit will be paid the Museum of the Davenport Academy of Science, Davenport, Iowa, where the trip will end.

Geological Trip. Sponsored by the State Geological Survey, for the general membership of the Academy, this trip in the Galesburg and Monmouth region will provide an opportunity for observing bedrock strata of the Pennsylvanian and Mississippian systems, glacial drift and loess and physiographic features, and for collecting fossils. It will be conducted by Dr. M. M. Leighton, Dr. George E. Ekblaw, Mr. L. E. Workman, and Prof. H. R. Wanless.

Biological Trip, sponsored by the State Natural History Survey. The area visited will be the bottom lands and bluffs adjacent to the Mississippi River, about 30 miles west of Galesburg. Upland game management practices will be explained and demonstrated at Crystal Lake Club. The fisheries possibilities of the Mississippi River in this region will be discussed and fish collections made for demonstration and discussion purposes. A visit to the Aquawka Game Refuge will provide an opportunity for study of the local flora. Dr. H. T. Frison, Dr. L. R. Tehon, Dr. D. H. Thompson and Mr. Arthur S. Hawkins will serve as leaders for the trip.

PROGRAM OF SECTION MEETINGS

All Meetings will be held at Knox College, Galesburg, Illinois

FRIDAY, MAY 3—1:30 p. m.

AGRICULTURE, Melvin Henderson, University of Illinois, Urbana, *Chairman*

Room 207 Alumni Hall.

Election of Chairman for 1940-41.

1. Influence of Age on the Value of Seed Corn—G. H. Dungan, University of Illinois, Urbana.
2. The Military Tract and its Agriculture—C. H. Oathout, Western Illinois State Teachers College, Macomb, Illinois.
3. Soil Conservation in Relation to the AAA Program—O. L. Whalin, University of Illinois, Urbana.
4. Vocational Agriculture in a Permanent Program of Agricultural Improvement—B. A. Tomlin, Assistant Supervisor, Agricultural Education, Springfield.
5. Probable Effect of Weeds upon the Fertility of Soils—H. J. Snider, University of Illinois, Urbana.
6. (Topic to be announced) —D. M. Hall, Extension Project Supervisor, College of Agriculture, University of Illinois, Urbana.

Turn papers in to Section Chairman at end of meeting.

ANTHROPOLOGY—F. L. Barloga, Peoria, *Chairman*

Room 201 Old Main

Election of Chairman for 1940-41.

1. Trail Markers in Illinois—(Illustrated)—Raymond E. Janssen, Northwestern University, Evanston.
2. The Prehistoric Villages and Camp Sites of the Peoria Lake Area—A. R. Buis, Peoria High School, Peoria. (Illustrated.)
3. Prehistoric Aboriginal Pottery of the Peoria Region—(Illustrated) —Ethel Schoenbeck, Peoria Academy of Science, Peoria.
4. Panel Discussion followed by question and comment period—Members of Section.

   Subject: What is Hopewellian?

   Discussion Leader: Thorne Deuel, Chief, Illinois State Museum, Springfield.

   Other Members of Panel: H. L. Spooner, Peoria, Academy of Science; Donald Wray, Peoria, Illinois State Archaeological Society; J. B. Ruyle, Illinois State Archaeological Society, Champaign.

Turn papers in to Section Chairman at end of meeting.

BOTANY—L. H. Tiffany, Northwestern University Evanston, *Chairman*

SECTION A—Room 211 Old Main.

Election of Chairman for 1940-41.

1. Recent Trends in Plant Disease Control—Neil E. Stevens, University of Illinois, Urbana.
2. A check-list of Illinois algae with new records from Cook County—M. E. Britton, Northwestern University, Evanston.
3. Mosses of Moultrie County—R. Harold Vaughn, Sullivan High School, Sullivan.
4. A preliminary report on the comparative anatomy of the Eucommiaceae—Oswald Tippo, University of Illinois, Urbana.
5. Projects for Biology—J. W. Hudson, Loyola University, Chicago.
6. Cotyledon numbers in conifers—Dorothy Butts and J. T. Buchholz, University of Illinois, Urbana.
7. Peculiarities in the Stems and Cones of Knob-cone Pine—J. T. Buchholz, University of Illinois, Urbana.
8. Notes on Embryo Development in Hippuris—Margaret Kaeiser, University of Illinois, Urbana.
9. A Newcomer's Impressions of the Botany of Illinois—George N. Jones, University of Illinois, Urbana.
10. The Pycnothyrium in the Taxonomic System of the Fungi Imperfecti—L. R. Tehon, Natural History Survey, Urbana.

Turn papers in to Section Chairman at end of meeting.

SECTION B—Room 212 Old Main.

1. A phytoplankton study of Lake Michigan at Evanston, Illinois—Kenneth E. Damann, Northwestern University, Evanston.
2. Relation of the Effects of Growth-Promoting Substances to Photosynthetic Activity, the Mass Law of Growth, and Seed Germination—Stanley William Oexemann, University of Illinois, Urbana.
3. Soil Moisture and Plant growth—Glenn Ray Noggle, University of Illinois, Urbana.
4. Grass Factor "X" in Young Leaves of Cereal Plants—F. Lyle Wynd, University of Illinois, Urbana.
5. Estimation of Riboflavin (Vitamin B2) in Plant Tissue—Stanley A. Watson, University of Illinois, Urbana.
6. Relationships of Nitrogen Metabolism in Plants—Dalibor Bubenicek and F. L. Wynd, University of Illinois, Urbana.
7. Some Temperature Relations of Tropisms—Harry J. Fuller, University of Illinois, Urbana.
8. Some Effects of Growth Substances on Petioles of Coleus Plants—R. Maurice Myers, Northwestern University, Evanston.
9. Recent Migrational Trends in the Distribution of Weeds in Kansas—Frank C. Gates, Kansas State College, Lawrence. (By title)
10. Observations on Stigmaria and Isoetes—Wilson N. Stewart, University of Illinois, Urbana.

Turn papers in to Section Chairman at end of meeting.

CHEMISTRY—James Neckers, Southern Illinois State Normal University, Carbondale, *Chairman.*

SECTION A—RESEARCH—Room 203 Science Hall

Election of Chairman for 1940-41.

1. 2-Chloro-3, 5-bis (acetylamino) Toluene—G. R. Yohe, State Geological Survey, Urbana.
2. The Introduction of Fluorine into Aromatic Nuclei by Means of Ammonium Fluoborate—G. C. Finger and F. H. Reed, State Geological Survey, Urbana. (Slides.)
3. Hydrogen Bonds involving the C-H Linkage—E. Ginsberg, University of Illinois, Urbana.
4. Enediols—R. V. Lindsey, University of Illinois, Urbana.
5. A Series of Substituted 1, 5-Diphenyl-pyrazoline-3-carboxylic acids —Edward L. Hill, Carthage College, Carthage.
6. Foam Stability—Sidney Ross, Monmouth College, Monmouth.
7. Copper in Tomatoes—William J. Shannon, University of Illinois, Urbana.
8. Optical isomerism of biphenyl derivatives—H. M. Teeter, University of Illinois, Urbana.
9. Chemical Analysis by Means of the Spectrograph—Russell J. Kiers, University of Illinois, Urbana.
10. Solubility and Etherates of Anhydrous Magnesium Perchlorate—Frank J. Seiler, Galesburg High School, Galesburg. (Slides.)
11. Synthetic Hydrocarbon Reactions in Petroleum Refining—Gustav Egloff, Universal Oil Products Company, Chicago.
12. Effect of Catalysts on Structure of Vinyl Polymers—E. H. Riddle, University of Illinois, Urbana.

Turn papers in to Section Chairman at end of meeting.

SECTION B—EDUCATIONAL—Room 304 Science Hall

1. Opportunities for Women in Chemistry—Virginia Bartow, University of Illinois, Urbana.
2. Adapting Chemistry to the Needs of the Citizens—Lawrence F. Tuleen, J. Sterling Morton High School, Cicero.
3. The Use of Calcium Hypochlorite for Gymnasium Sanitation—Howard W. Adams and Delbert N. Eggenberger, Illinois State Normal University, Normal.
4. Some Recent Additions to the Chemistry of indium—Therald Moeller, University of Illinois, Urbana.
5. Presentation of Atomic Structure to College Freshmen, 1905-1940—Sister Mary Martinette, Mundelein College, Chicago.
6. Home-made Structural Models—C. W. Bennett, Western Illinois State Teachers College, Macomb.
7. The Southern Illinois Chemistry Teachers Association—C. A. Grosse, Carbondale Community High School, Carbondale.

8. The Future of Chemistry as a Specialized Science in the High School Curriculum—T. A. Nelson, Decatur High School, Decatur.
9. The Student, The Teacher, and The Glands—Charles L. Haggard, Zeigler High School, Zeigler.
10. The Detection of oxy-halogen anions—J. H. Reedy, University of Illinois, Urbana and Sister Joan Preising, College of St. Francis, Joliet.

Turn papers in to Section Chairman at end of meeting.

GEOGRAPHY—Clare Symonds, Quincy, *Chairman.*

This section is sponsored by Illinois Chapter of the National Council of Geography Teachers.

Room 311 Old Main

1. A Method of Showing the Distribution of Native Vegetation on a Small Scale—Robert J. Voskuil, University of Illinois, Urbana.
2. The New Oil Industry of Illinois and Its Implications in the Social and Economic Life of Southern Illinois—Elmer W. Ellsworth, Centralia.
3. The Market Factor: Its Effect on Cultural Landscapes—Alfred W. Booth, University of Illinois, Urbana.
4. An Urban Rural Ecotone—Thomas F. Barton, Southern Illinois State Teachers College, Carbondale.
5. Geography in the High Schools of Southern Illinois—Erselia M. and Thomas F. Barton, Carbondale.
6. Climatic Regions of Illinois—Dalias A. Price, University of Illinois, Urbana.
7. Brittany and Cornwall: Geographical Twins—Mabel Crompton, Illinois State Normal University, Normal. (Illustrated.)
8. Major Coal Movements in the U. S. and their Significance—W. H. Voskuil, State Geological Survey, Urbana.

Election of Chairman for 1940-41. *Discussion of proposal to have two sections of geography—one to be research, the other educational.*

9. Geographic Axioms as Teaching Aids—Arthur B. Cozzens, University of Illinois, Urbana. (Illustrated.)
10. (Title to be announced.)—Henry L. Kellogg, Engineer, Illinois State Planning Commission, Chicago.
11. Fairmont Rural Study—Roscoe Lefler, University of Illinois, Urbana.
12. The Curious Caspian—W. O. Blanchard, University of Illinois, Urbana.
13. Selling Geography to the Public School Executive.—Robert G. Buzzard, President, Eastern Illinois State Teachers College, Charleston.

Turn papers in to Section Chairman at end of meeting.

GEOLOGY—David M. Delo, Knox College, Galesburg, *Chairman.*

Room 315 Old Main

Election of Chairman for 1940-41.

1. Blowouts and Sickle-shaped Dunes along Southern Lake Michigan—W. E. Powers, Northwestern University, Evanston.

2. Additional Notes on the Geodes of the Warsaw Formation—Percival Robertson and Marshal Brooks, Principia College, Elsah.

3. Geographical Contributions to Social Life—G. G. Cole, Wheaton College, Wheaton.

4. The Use of Natural Color Slides as an Aid in Geologic Teaching—H. R. Wanless, University of Illinois, Urbana.

5. The Research Program of the State Geological Survey and its New Facilities—M. M. Leighton, Chief, State Geological Survey, Urbana.

6. Strip Mining as a Competitive Factor in the Illinois Coal Mining Industry—Gilbert H. Cady, State Geological Survey, Urbana.

7. Fusain Content of the Fine Sizes of Illinois Coal—Bryan C. Parks and L. C. McCabe, State Geological Survey, Urbana.

8. Coordinate Time and Stratigraphic Terms—A. H. Sutton, University of Illinois, Urbana.

9. Typical Lower Mississippi Valley Silurian Lithology in Southeastern Wisconsin—John R. Ball, Northwestern University, Evanston.

10. A Restudy of Lesquereux's Fossil Plant Type from Illinois—Ray E. Janssen, Northwestern University, Evanston.

11. Aerial Photography—Harry McDermith, Urbana.

12. The Platteville-Galena Formations Exposed Near LaSalle and Ottawa, Illinois—J. S. Templeton, State Geological Survey, Urbana.

13. Pipette analysis as applied in clay research—R. A. Rowland, State Geological Survey, Urbana.

14. Glacial Lake Watseka—Geo. E. Ekblaw, State Geological Survey, Urbana.

15. Pre-glacial River Ticona—H. B. Willman, State Geological Survey, Urbana.

16. Recent Oil and Gas Development in Illinois—George V. Cohee and Charles W. Carter, State Geological Survey, Urbana.

Turn papers in to Section Chairman at end of meeting.

PHYSICS—C. N. Wall, North Central College, Naperville, *Chairman*

Room 103, Science Hall.

Election of Chairman for 1940-41.

1. Electrical Properties of the Human Body—O. L. Railsback, Eastern Illinois State Teachers College, Charleston.
2. High Potential and other Phenomena—G. C. Godejahn, Central Scientific Company, Chicago.
3. Advantages of Standard Sizes for Optical Panels—Clarence R. Smith, Aurora College, Aurora.
4. The Use of the R. W. Wood Replica Diffraction Gratings in a Study of Virtual Spectra—D. L. Barr, W. M. Welch Manufacturing Company, Chicago.
5. The Measurement of Velocity with Graflex Camera—R. E. Harris, Lake Forest College, Lake Forest.
6. Application of High Speed Photography to some Particular Ballistic Problems—Robert L. Womer, Western Cartridge Company, Chicago.
7. Distinguishing Characteristics for Particulate Carbonaceous Materials Dicharged to the Atmosphere by Fuel Burning Sources—Sidney Bloomenthal, University of Chicago, and Isadore Deutch, Chicago Department of Smoke Inspection and Abatement.
8. Wave Characteristics with Some Demonstrations for General College Physics—V. F. Swaim, Bradley Polytechnic Institute, Peoria.
9. Methods and Practical Applications of Vibration Isolation—H. A. Leedy, Research Foundation of Armour Institute of Technology, Chicago.
10. Some Physical Properties of Uranium—W. L. Hole, Elmhurst College, Elmhurst.
11. Lifetimes of Excited States in some Polyatomic Molecules—G. M. Almy and Scott Anderson, University of Illinois, Urbana.
12. Temperature—Lester I. Bockstahler, Northwestern University, Evanston.
13. (a) A Simplified Experiment for the Determination of the Stefan-Boltzmann Law of Radiation.
    (b) An Unusual Lunar Spectrum—Ph. A. Constantinides, Wright Junior College, Chicago.
14. Pressure and Volume Relation of the Toy Balloon—Frank L. Verwiebe, Eastern Illinois State Teachers College, Charleston.
15. A New Method for Production of Radioactive Hydrogen of Atomic Weight Three—R. D. O'Neal and M. Goldhaber, University of Illinois, Urbana.

Turn papers in to Section Chairman at end of meeting.

PSYCHOLOGY and EDUCATION—J. T. Cavan, Rockford College, Rockford, *Chairman*

Room 301 Old Main.

Election of Chairman for 1940-41.

1. The Vowal Format and What It Means in Speech and Vocal Music—O. Irving Jacobsen, Shurtleff College, Alton.
2. Implications for Education of Data on Youth—J. M. Hughes, Northwestern University, Evanston.
3. Social Forces and College Adjustments—Jordan T. Cavan, Rockford College, Rockford.
4. A Summary of Investigations of Transfer of Training in Education —Helen R. Messenger, Northern Illinois State Teachers College, DeKalb.
5. An Analysis of Attitudes Tests—Isabel C. Stewart and O. F. Gallaway, MacMurray College, Jacksonville.
6. Validity of Rank in High School Class and of Psychological Test Scores in Predicting Academic Success in College—C. E. Erffmeyer, North Central College, Naperville.
7. A Study of the Recitation Procedure Compared with the Unit-Directed Study Procedure in Modern History Classes in Eight Illinois High Schools—Robert S. Ellwood, Illinois State Normal University, Normal.
8. Trends in Science Education—Carroll C. Hall, Springfield High School, Springfield.

Round Table Discussion: Issues in Testing and in Science Teaching. (As time permits.)

Turn papers in to Section Chairman at end of meeting.

ZOOLOGY—Wilbur M. Luce, University of Illinois, Urbana, *Chairman*

Room 206 Alumni Hall.

Election of Chairman for 1940-41.

1. The Host of Another Illinois Species of Brachymeria (Hymenoptera)—B. D. Burks, State Natural History Survey, Urbana.

2. Comparative Populations of Game, Fur, and Other Mammals—Carl O. Mohr, State Natural History Survey, Urbana. (Lantern.)

3. Paratonsillar Myiasis—Eugene R. Dougherty, Springfield Junior College, Springfield.

4. Cephalic Deformities in Embryos of Massasanga Rattlesnake (*Sistrurus c. catenatus Rom.*)—Bertrand A. Wright, University of Illinois, Urbana. (Lantern.)

5. The Family Life of the Marsh Hawk—Charles K. Carpenter, Wheaton. (Lantern.)

6. The Effects of Nicotine and Cigarette Smoke on Pregnant Female Albino Rats and Their Offspring—J. M. Essenberg, Justin V. Schwind and Anne R. Patras, Loyola Medical School, Chicago.

7. The Action of Growth Stimulants on Proteins—Seward E. Owen, Cancer Research Unit, Veteran's Administration, Hines.

8. Studies on Ambush Bugs—W. V. Balduf, University of Illinois, Urbana. (Lantern.)

9. Illinois Distribution Records of the Black Widow Spider—Kenneth L. Knight, University of Illinois, Urbana.

10. Mexican Zoogeography for the Touring Teacher—Harry Hoogstraal, University of Illinois, Urbana. (Lantern.)

11. Induced Ovulation in Rana pipiens—T. W. Robinson and H. C. Hill, University of Illinois, Urbana.

12. A Case of Extreme Curvature in Regenerating Fin Rays—Donald F. Hansen, State Natural History Survey, Urbana.

13. The Effect of Starvation on the Fowl Cestode *Raillietina cesticillus*—W. Malcolm Reid, Monmouth College, Monmouth. (Lantern.)

14. Insects Taken by the Southern Pitcher Plant—Clarence J. Goodnight, University of Illinois, Urbana. (By title.)

15. An Annotated List of the Spiders of an East Central Illinois Forest (the William Trelease Woods, Urbana)—Sarah E. Jones, University of Illinois, Urbana. (By title.)

Turn papers in to Section Chairman at end of meeting.

JUNIOR SECTION PROGRAM

Audry C. Hill, *Chairman,* Chester High School, Chester.

Galesburg, Illinois

May 3-4, 1940

FRIDAY, MAY 3

8:00 a.m. Registration. Gymnasium, Galesburg High School.

8-10 a.m. Arrangement of competitive entries. Exhibits of Equipment of Scientific Companies. Gymnasium.

10-12 noon: Judging of competitive exhibits.

12-1:00 p.m. Luncheon of Junior Academy members. Congregational Church, across street from gym. Price, 30c.

1-2:30 p.m. Exhibits open for inspection by Junior Academy members.

1-4:30 p.m. *Exhibits open to public.*

2:30-4:30 p.m. Annual business meeting of official delegates of the Junior Academy. Auditorium, High School, Second floor of main building.
Address of Welcome. Mr. R. V. Lindsey, Superintendent of Schools, Galesburg.
Presentation of Junior Academy officials.
Roll call of clubs.
Music—Maine Chemistry Club Octet. Dedicated to Illinois Junior Academy.
Report of Junior Academy Delegates to A. A. A. S. Nadine Whitesides, Vienna Science Club, Vienna; Delbert Rainey, The Ferreters, Chester.
Science Play.
Election of 1940 *officers by official delegates.*

4:30-5:00 p.m. Removal of exhibits.

6:00-7:30 p.m. Annual Banquet. Universalist Church, Prairie and Tompkins Streets. Price 50 cents. Entertainment by Galesburg High School Choir and String Ensemble.

8:00 p.m. Annual Public Lecture. Joint meeting of the Junior and Senior Academies. Knox College Theatre.
The artificial creation of speech. (Slides and film)—Dr. J. O. Perrine, Vice President, American Telephone and Telegraph Company.
Announcement of Junior Academy Elections.
Presentation of Awards.

Saturday, May 4—Same as trips for Senior Academy. Register Friday for transportation and lunches. Wear hiking clothes for all but Railroad Trip.

GENERAL INFORMATION

SENIOR ACADEMY REGISTRATION AND HEADQUARTERS

Old Main Building, Knox College

Telegrams and other messages may be sent to individuals in care of Mr. H. E. Way, Knox College, Galesburg, Illinois, and called for at the registration desk. Changes of schedule or program and other special announcements will be posted near the registration desk.

Secure tickets for banquet before 10:30 a.m., Friday, May 3rd, at the registration desk. If you cannot arrive by that time and wish tickets send check or money order to reach Mr. C. L. Furrow, Knox College, Galesburg, Illinois, before Wednesday, May 1st. For your convenience in making reservations, a printed form is enclosed with this program.

HOTEL AND ROOM ACCOMMODATIONS

Persons wishing hotel accomodations should write as soon as possible directly to the hotel of their choice. Two hotels are available: The Custer, and The Broadview. Reservations for room accommodations can be arranged by communicating with the hotel direct.

JUNIOR ACADEMY REGISTRATION AND HEADQUARTERS:

Galesburg High School Gymnasium

Telegrams and other messages may be sent to individuals in care of Mr. H. E. Way, Knox College, Galesburg, Illinois, and may be called for in Room 108, Science Hall. Changes of schedule or program and other special announcements will be posted at the registration desk.

Housing facilities for out-of-town guests attending the Junior Section will be provided in private homes of Galesburg High School students at a minimum cost. Reservations should be made in advance with Mr. Frank Seiler, Galesburg High School, Galesburg, Illinois. Private homes—50c per person including breakfast.